

CLAIMS

1. A high frequency relay having a mounting surface to be mounted on an external element and comprising:

5 an electromagnet having an iron core and a coil wound around the iron core;

stationary terminals to be connected to the external element;

contacts formed to be generally flat and having respective contact surfaces to be brought into contact with or separated from the stationary terminals;

10 an armature attracted to or repelled from the iron core according to energization of the coil to obtain a driving force for driving the contacts; and

a pair of shielding members made of a metallic material for supporting the contacts in an insulated state so that the contact surfaces extend generally parallel to the mounting surface;

15 wherein the pair of shielding members shield contact portions between the contacts and the stationary terminals and sandwich the contacts in a direction perpendicular to the mounting surface.

2. The high frequency relay according to claim 1, wherein the stationary terminals have respective outer end portions substantially flush with the mounting surface.

20 3. The high frequency relay according to claim 1 or 2, wherein the armature swings with a central portion thereof as a fulcrum when any one of opposite end portions thereof is attracted to or repelled from the iron core, wherein the armature has a first surface confronting the electromagnet and a second surface opposite to the first surface, and also has a drive member secured to the second surface thereof and having a longitudinal length shorter than that of the armature, and wherein a driving force from the armature is transmitted to the contacts via the drive member.

4. The high frequency relay according to claim 3, further comprising transit members having respective transmitting portions to which the driving force is transmitted, the transit members transmitting the driving force to locations inwardly of the transmitting portions.

5 5. The high frequency relay according to claim 1 or 2, wherein the pair of shielding members are joined together by an electrically conductive adhesive.

6. The high frequency relay according to claim 1 or 2, further comprising contact support members for supporting the contacts in an insulated state and support members for supporting the contact support members to allow the contact support members to deflect in a direction perpendicular to the contact surfaces, wherein one of the pair of shielding members has insertion holes defined therein into which the contact support members are inserted, and wherein the support members have metallic shielding portions at locations corresponding to the insertion holes.

10 7. The high frequency relay according to claim 1 or 2, further comprising contact support members made of an insulating material for supporting the contacts and support members for supporting the contact support members to allow the contact support members to deflect in a direction perpendicular to the contact surfaces, wherein the support members have respective metallic support portions connected to one of the pair of shielding members.

15 8. The high frequency relay according to claim 1 or 2, wherein the mounting surface is an external surface of one of the pair of shielding members.

9. The high frequency relay according to claim 1 or 2, further comprising a casing wherein distal ends of the stationary terminals are positioned inside the casing.

20 10. The high frequency relay according to claim 1 or 2, further comprising contact support members for supporting the contacts in an insulated state wherein the contact support members support the contacts in a direction substantially parallel to the mounting surface.

11. The high frequency relay according to claim 1 or 2, wherein the pair of shielding members are formed into a desired shape by metal-injection molding.

12. The high frequency relay according to claim 1 or 2, wherein the pair of shielding members are joined together by laser welding.

5 13. The high frequency relay according to claim 1 or 2, wherein the stationary terminals comprise coil terminals connected to the coil, normally-closed stationary terminals, normally open stationary terminals pairing with the normally-closed stationary terminals, common stationary terminals connectable to either the normally-closed stationary terminals or the normally open stationary terminals, and
10 wherein the normally-closed stationary terminal, the coil terminal, the common stationary terminal, the coil terminal, the normally open stationary terminal, the normally open stationary terminal, the coil terminal, the common stationary terminal, the coil terminal, and the normally-closed stationary terminal are arranged around one of the pair of shielding members in this order.

15 14. The high frequency relay according to claim 13, wherein one of the pair of shielding members is formed into a rectangular configuration and wherein the normally-closed stationary terminals are led out from one side of the one of the pair of shielding members and the normally open stationary terminals are led out from the opposite side of the one of the pair of shielding members.

20 15. The high frequency relay according to claim 14, wherein the one side and the opposite side are opposite short sides of the one of the pair of shielding members.